Daily Diary Report by Bid Item

Contract No.: 04-0120F4
Diary #: 1250 **Const Calendar Day:** 823 **Date:** 05-Sep-2014 **Friday**
Inspector Name: Brignano, Bob **Title:** Transportation Engineer
Inspection Type:
Shift Hours: **Break:** **Over Time:**
Federal ID:
Location:
Reviewer: Schmitt, Alex **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** **12 PM** **4PM**
Precipitation **Condition** overcast am, clear pm

Working Day ☑ If no, explain:

Diary: Dispute ☐

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:

The status of the 2 test rigs in this current phase of the Townsend Test (Test IV) is as follows:
Rod 18 (Dry 2008 Rod, ID S1-A7, Bottom): Tensioned to 0.85 Fu Today
Rod 19 (Dry 2008 Rod, ID S2-H6, Bottom): Tensioned to 0.85 Fu Today

ABF Engineer Kelvin Chen is working part time in the field and office on CCO 314.

There is work in the field for the scheduled jacking step at TR's 18 & 19. Crews at the Pier 7 warehouse are working an 8-hour shift 0700 through 1530. Working on the CCO operation today are Ironworker Jared Garrett (~0910~0940 for ~1/2 hr) and Ironworker Foreman Obra Paulk (~0910~0940 for ~1/2 hr). There is also some work prior to this time by the two ironworkers and by Operator Justin Garrett to move some CCO 314 materials in the area to the south of the test rigs. ABF does not charge this minor amount of time for the operator on CCO 314. The ABF timesheet rounds up the time to 1 hour for each ironworker, taking into consideration travel time from elsewhere at the Pier 7 warehouse area and disruption to the other scheduled operations for the jacking step and for the earlier time to move CCO 314 in the area to the south of the test rigs. The non-CCO 314 operations elsewhere at the Pier 7 warehouse area at other times in the day are not covered by this diary.

ABF is demobilizing material and equipment from the Pier 7 warehouse and yard. Included in their work this morning is moving CCO 314 material in the area to the south of the test rigs. Most of their work is not CCO 314 related but some of it is.

VGO is on site today for the jacking step at TR's 18 & 19. From VGO, Dave Van Dyke starts work on site at ~0800. He works on the morning data reports before this morning's scheduled tensioning step. VGO is present for live data display during the jacking step at the test rigs. Then, VGO works on the data reports from the jacking step at the test rigs. VGO leaves the site ~1000. Dave flies from the Bay Area to Oregon this afternoon. Remotely, at the end of the day, VGO produces and sends the pm data reports.

For the jacking step at the 2 test rigs, present from the DJV is Luis Funes. Present from CT-METS for AE is Saied Khan (communicate with Mistras personnel offsite). Two ABF ironworkers are present to operate the hydraulic pump, tighten the nut, and deal with any issues that may come up during the jacking operation, with VGO present to monitor the loads being used to guide the operations.

Test Rig #18 (Dry 2008 Rod, ID S1-A7, Bottom) Jacking Step:
This is the 10th jacking step and the rod is being jacked to 0.85 Fu. The post-seating of the nut target is

710.430 +10/-0 kips. The expected hydraulic pressure at this locked off force is 5,100 psi. Based on the previous jacking step (9/3/2014 - 0.80 Fu), the expected seating loss is at least 46 kips (plus some expected bleed loss during AE check), so the initial jacking target is ~760~770 kips. The tension on the rod at the start of the operation is 670 kips (the 0.80 Fu load left on the rod 2 days ago was 673 kips for a delta of -3 kips), with this tension difference possibly due to thermal differences between 9/3/2014 and today). Jacking is started at 0915. At 5,100 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 714 kips. The hydraulic pressure is increased to 5,600 psi and the primary strain gauges give a force of 751 kips. The hydraulic pressure is increased to 5,700 psi and the primary strain gauges give a force of 767 kips. The AE is checked with the ok given at 0920. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 763 kips (bleed loss = 4 kips). After bleeding off the jacks, the primary strain gauges give a force of 712 kips (seating loss = 51 kips). The force is within the specified tolerance.

Test Rig #19 (Dry 2008 Rod, ID S2-H6, Bottom) Jacking Step:
This is the 10th jacking step and the rod is being jacked to 0.85 Fu. The post-seating of the nut target is 710.430 +10/-0 kips. The expected hydraulic pressure at this locked off force is 5,100 psi. Based on the previous jacking step (9/3/2014 - 0.80 Fu), the expected seating loss is at least 48-49 kips (plus some expected bleed loss during AE check), so the initial jacking target is ~760~770 kips. The tension on the rod at the start of the operation is 673 kips (the 0.80 Fu load left on the rod 2 days ago was 677 kips for a delta of -4 kips), with this tension difference possibly due to thermal differences between 9/3/2014 and today). Jacking is started at 0922. At 5,100 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 712 kips. The hydraulic pressure is increased to 5,700 psi and the primary strain gauges give a force of 765 kips. The AE is checked with the ok given at 0927. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 761 kips (bleed loss = 4 kips). After bleeding off the jacks, the primary strain gauges give a force of 710.0 kips (seating loss = 51 kips). This is not within tolerance – force is low by less than a kip from the minimum target but it is continuing to drop, so another jacking step is needed. At 5,700+ psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 773 kips (8 kips higher). The AE is checked with the ok given at 0932. The nut is tightened. With only 1 kip additional tension in the rod being necessary to meet the minimum tolerance range and a risk of going over the maximum tolerance range if the nut is tightened too much, the ironworkers do not put extra effort into the nut tightening, which would reduce the seating loss and potentially result in the tension being out of tolerance (too high). Prior to bleeding off the jacks, the primary strain gauges give a force of 770 kips (bleed loss = 3 kips). After bleeding off the jacks, the primary strain gauges give a force of 716 kips (seating loss = 54 kips). The increase of 6 kips is from 8 kips higher jacking force, 1 kip less bleed loss, and 3 kips more seating loss (because did not put extra effort into tightening the nut to avoid the tension being over the tolerance). The force is within the specified tolerance.

Today, Bay Area Washout arrives to pump water from 55-gallon barrels at the test rig site. This is mostly old NaCl Solution from previous phases of the Townsend Test (Test IV). Some of this saltwater is clean saltwater drained from the tanks used as reservoirs, some of it is saltwater that leaked onto the ground that was vacuumed/pumped up and has some dirt in it, and some of it is rainwater that was contaminated with hydraulic oil. There are 68 of the 55-gallon drums at the test rig site, but they range from empty to full. From the many barrels that are partially full, I estimate that there are the equivalent of 30 full barrels for ~1650 gallons to be emptied. Bay Area Washout arrives ~0800, begins pumping from the barrels, leaves the site approximately a couple of hours later, and takes the waste water to EBMUD for proper disposal. For the empty 55-gallon plastic drums, Contracts Manager Brandon Yee and I discuss several options for disposal including filling approximately 2 trash dumpsters with intact barrels, cutting the barrels so they will pack tighter in the dumpsters, or putting out an ad for free barrels (ABF has a website advertising their equipment for sale). We agree to start by putting out the ad, seeing how many barrels will be taken, and then disposing of the remainder of the barrels if necessary.

A 40kW generator – MQ Power 40 – ABF ID 002051 is used briefly for the jacking operations and is on idle/standby at the test rig work area the remainder of the day. A Hydraulic Pump for running the jacks is used briefly for the jacking operations and is on idle/standby at the test rig work area the remainder of the day. A few forklifts (Hyster 80 forklift (ABF ID 002306) and extendable forklift (Gradall 544D - ABF ID

002005)) are used by the ironworkers and operator to move CCO 314 material in the area to the south of the test rigs.

Note that there is k-rail at this work area. All the remaining k-rail at the CCO 314 test rig site is State owned. There are 20 pieces of 10' bought k-rail. Of the 20 pieces, 16 are installed in test rigs and 4 are spare/extra k-rail that are set aside.

To elevate k-rail and sandbags, crane mats (built from 12x12's) and timber blocking (12x12's) are used. The crane mat and 12x12's quantities are as follows:
1 each 4'x20' crane mat (1 x 80 LF)
1 each 5'x19' crane mat (1 x 95 LF)
2 each 5'x20' crane mats (2 x 100 LF)
2 each 5'x16' crane mat (2 x 80 LF)
~64 LF additional 12x12's
Total 12x12's quantity = 599 LF ~ 600 LF

The agreed extra work with ABF is as follows:
Ironworker Jared Garrett - 1 hr
Ironworker Foreman Obra Paulk - 1 hr
Engineer Kelvin Chen - 0.5 hr
40 kW Generator - 0.5 hr
12x12 timber - 600 LF
See the attached Extra Work Order - Signed with ABF for CCO 314 work